

**TRIPLER ARMY MEDICAL CENTER**

**REFRACTIVE SURGERY CENTER**

Warfighter Refractive Eye Surgery Program  
(WRESP)

# Goals of this Briefing

- To inform active duty personnel about WRESP, the Warfighter Refractive Eye Surgery Program.
- Explain the surgical and non-surgical options available, as well as the risks and benefits of those procedures.

# What is Refractive Surgery?

- Refractive surgery involves using surgical procedures to decrease near-sightedness, farsightedness and astigmatism. By decreasing these “refractive errors” you should have improved uncorrected (meaning no glasses or contact lenses) vision. We offer many types of refractive surgery at our Center. We will help you determine which procedure is correct for you.
- LASIK and PRK make up approximately 97% of our refractive surgeries.

# Purpose of WRESP

- US Army-funded program to enhance active duty service member readiness by reducing their dependency on glasses and/or contact lenses
- Why does the Army fund such a program?  
To improve the safety and efficacy of its most important resource --- **YOU**







U.S. ARMY<sup>SM</sup>

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# Tripler's WRESP

- Refractive surgery available to all branches of service
  - Army
  - Navy
  - Marines
  - Air Force
  - Coast Guard



# Qualifications:

## Remaining Time in Service

- Minimum time remaining on active duty at time of surgery, or in conjunction with a re-enlistment action which has been executed:
  - Army -12 months
  - Navy/Marine Corps - 12 months
  - Air Force - 6 months (pilots-12 mos)
- Personnel selected should have at least 6 months remaining in the same or similar unit and should have no adverse personnel actions pending.

# Prioritization

- Prioritization, according to command or job description, is not currently needed due to the short wait time for refractive surgery at our Center
- We will attempt to expedite service members who have upcoming deployments, but there is no guarantee that we will be able to complete your evaluation, perform your surgery and have you complete your follow-up appointments in time for your deployment, PCS or TAD

# Qualifications: TDY/Travel/Leave

- Service regulations state that patients cannot deploy for a minimum of 3 months after PRK, or 1 month after LASIK
- Deployment is usually not permitted until 3 months after ICL or Refractive Lens Exchange surgery
- No TDY/off-island travel/workups greater than **1 week** in length are allowed during the first 3 months after PRK, or 1 month after LASIK surgery. No TDY/off-island travel/workups are allowed until 3 weeks after PRK surgery, or 2 weeks after LASIK surgery

# Process Overview

- 1) Print Refractive Surgery Packet (from TAMC website)
- 2) Print Commander's Authorization (from TAMC website)
- 3) Attend a Refractive Surgery Briefing (Oahu patients) – bring completed packet, including signed Commander's Authorization letter, and an eye exam or prescription that is at least one year old
- 4) Comprehensive Refractive Evaluation (CRE) at TAMC
- 5) Surgery
- 6) Post-op follow-ups !!!!

LASIK: Day 1; Day 7; 1/3/6 months

PRK: Day 1; Day 4; 3 weeks; 3/6 months



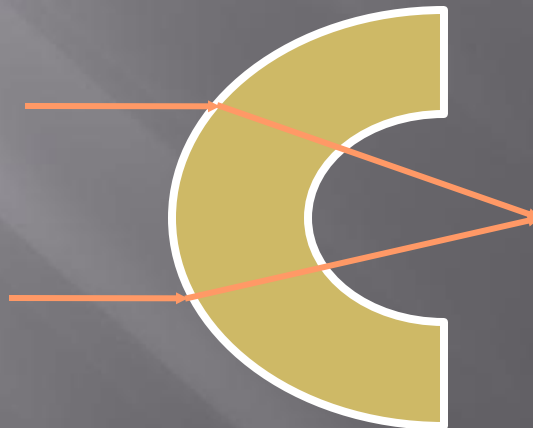
# Basic Eye Facts

- Four primary types of “refractive error”
  - myopia (nearsightedness)
  - hyperopia (far-sightedness)
  - astigmatism
  - presbyopia
- We correct myopia, hyperopia and astigmatism by reshaping your cornea (the front clear part of the eye) using an excimer laser

# Corneal Curvature



Flat corneal curvature-  
Hyperopia



Steep corneal curvature-  
Myopia

# Presbyopia

- Everyone develops this condition at some point in their life
- Unable to focus at both near and distant objects without correction
- Reading glasses will most likely be needed for reading after 40-50 years of age
- Monovision may decrease the need for reading glasses, but it is not for everyone
- Refractive surgery **will not correct** presbyopia

# Refractive Surgery

- Tripler's Refractive Surgery Center offers:
  - PRK (photorefractive keratectomy)
  - LASIK (laser in-situ keratomileusis)
  - ICL (Implantable Contact Lens) surgery
  - RLE (Refractive Lens Exchange) surgery



# Refractive Surgery – other treatment options

- Eyeglasses
- Contact lenses
- Radial keratotomy (RK)
- Orthokeratology
- Intacs
- Conductive keratoplasty

# Refractive Surgery

- We are able to perform corneal refractive surgery (LASIK/PRK) in greater than 97% of our candidates
- While we do offer ICL and Refractive Lens Exchange (RLE) surgery, we reserve these procedures for individuals who are not good corneal refractive surgery patients
- If we feel that you are a good ICL or RLE surgery candidate we will give you more information about these procedures

# Realistic Expectations

- Not everyone who has refractive surgery will achieve 20/15 vision
- Refractive surgery does not give everyone perfect vision
- I may not be happy after surgery, even if I am 20/20
- I may be happy even if I am not 20/20 after surgery

*\*\*Every patient has different expectations – we try to ensure that your expectations are realistic*

# Corneal Refractive Surgery (LASIK/PRK)



# Corneal Refractive Surgery

- Realistic expectations are necessary
- It is an IRREVERSIBLE surgical procedure
- There are RISKS associated with the procedure
- 5-10% of people will not qualify for surgery
- Approximately 5% of people may need additional surgery at a later point in time

# Corneal Refractive Surgery

- Advantages:
  - decreased dependency on glasses or contact lenses
  - improved safety/comfort when using personal protective gear (NVGs/Gas mask)

# Corneal Refractive Surgery

- Disadvantages:
  - non-reversible
  - vision may change mildly after many years
  - some side-effects may be permanent

# Surgical Criteria

- Age 21 years or older.
- Stable refraction at least one year
- Nearsightedness: minimum SE is -1.0 D
- Farsightedness:  $<+4.00$  diopters (USAF +3D)
- Astigmatism  $<4.00$  D (USAF +3D)
- No medical or ocular contraindications



# Medical Contraindications

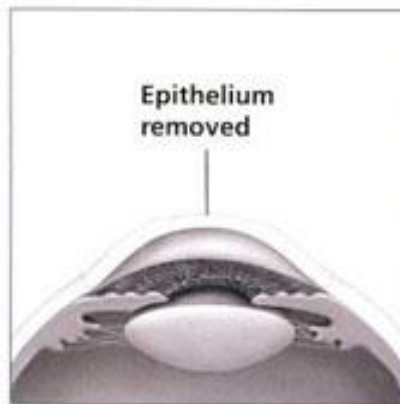
- Vascular disease
- Autoimmune disease
- Diabetes, HIV+, Rheumatoid Arthritis, etc
- Pregnant or Nursing
- Certain medications
  - e.g. Prednisone, Accutane, Imitrex, Cordarone

# Ocular Contraindications

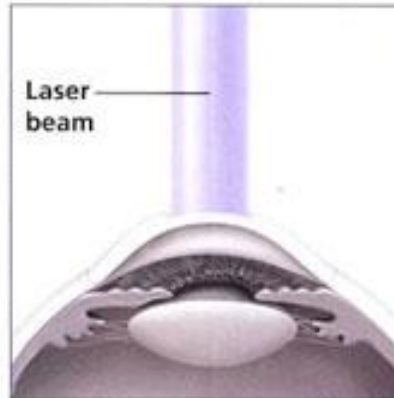
- Keratoconus, or keratoconus suspect
- Irregular astigmatism
- History of ocular herpes infection
- Unstable refraction
- Corneal disease
- Glaucoma
- Cataract

PRK

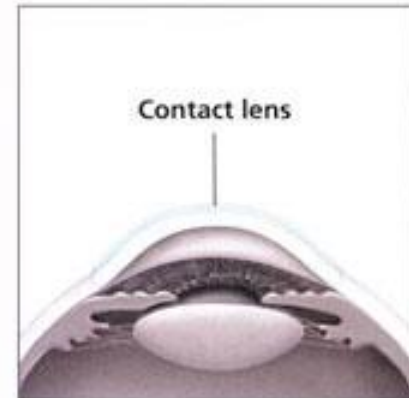
# PRK



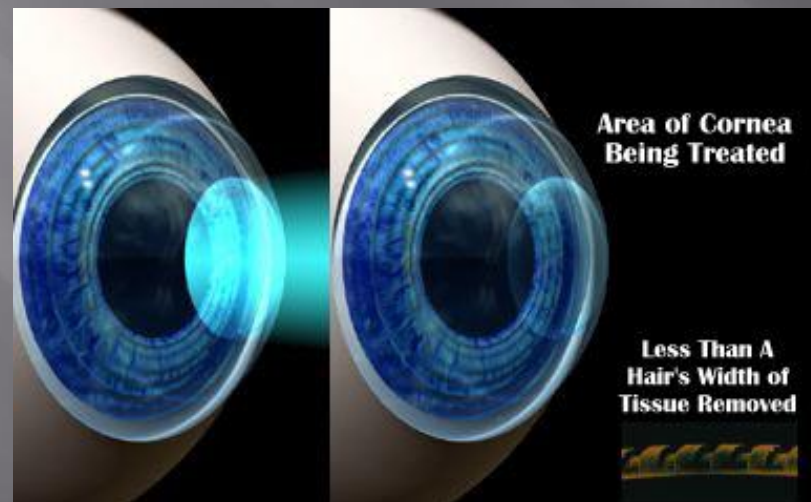
The epithelium is removed using a small instrument or a laser. This exposes lower layers of the cornea.



A laser reshapes the cornea using short, rapid pulses of ultraviolet (UV) light. The laser is guided by a computer.



A "bandage" contact lens is placed on the eye. The lens helps protect the eye while it heals.



# PRK: Expectations

- You will have some degree of eye pain after PRK--it may be mild or severe, but it will only last for a few days
- Plan on staying at home with your eyes closed as much as possible for the first few days after surgery
- Although the contact lens typically is removed around Day 4, it may take longer before it can be removed
- Your vision may fluctuate every day for the first month
- You will have light sensitivity for 7-10 days after surgery
- Glare, halos and/or dry eye symptoms are common in first 2-3 months

# PRK: Complications

- Infection ( $\ll 0.1\%$ )
- Over or under-correction
- Regression over time
- Loss of “best-corrected” vision
- Glare and/or Halos
- Dry eyes
- Loss of contrast sensitivity (difficulty with low-vision tasks)
- Elevated intraocular pressure (post-op medication)
- “Haze” = late scarring (1-6 months post-op)
  - risk is proportional to degree of laser correction
  - everyone is at some risk



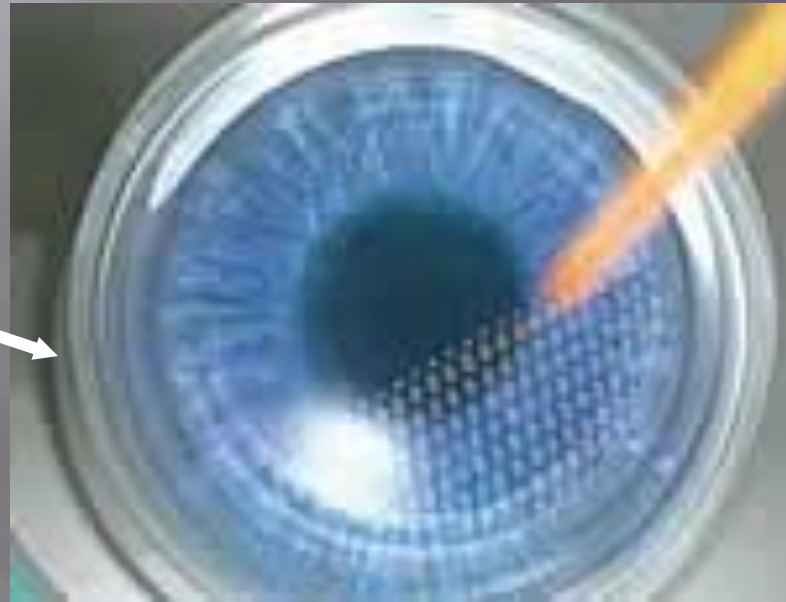
LASIK

# LASIK: Overview

- Actually two procedures:
  - 1) Creation of flap using femtosecond laser
  - 2) Re-shaping of cornea using excimer laser

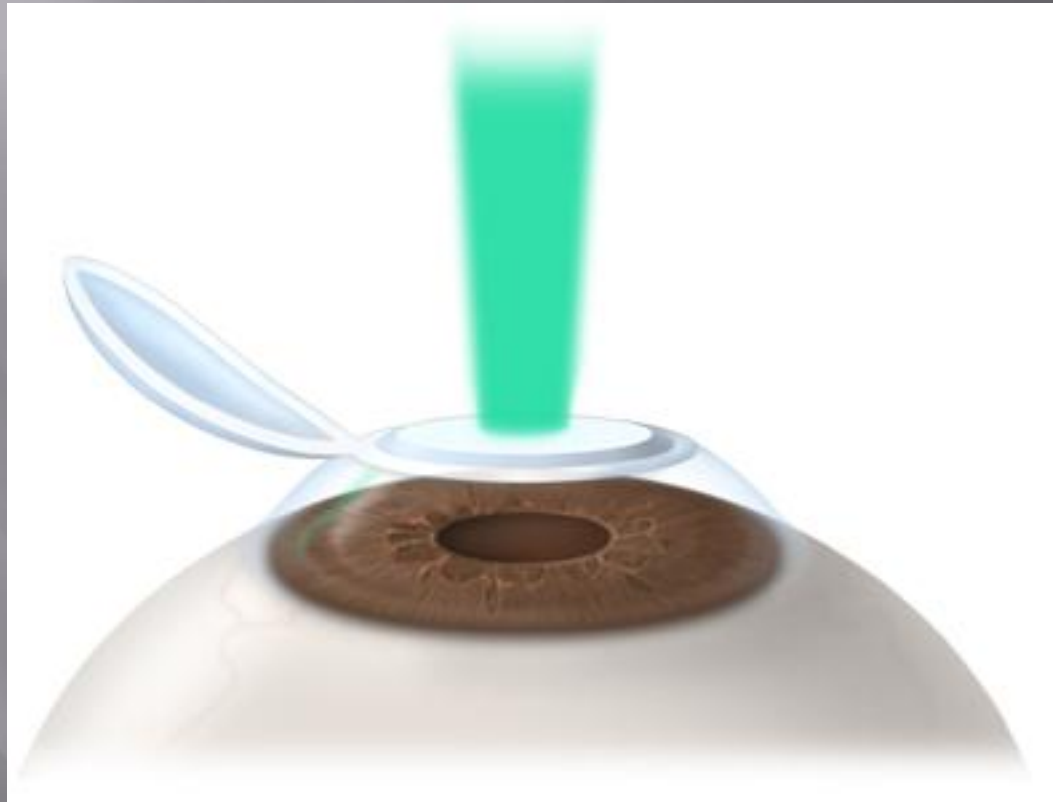
# LASIK

Stabilization  
ring



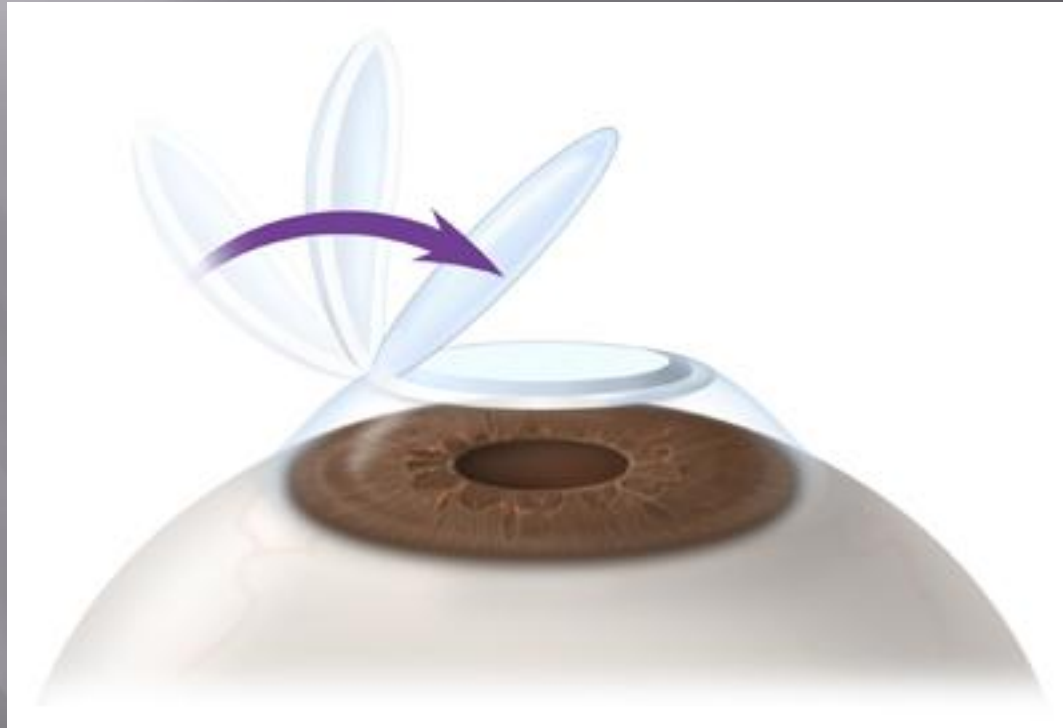
**Stabilization ring is placed on cornea and  
laser is applied**

# LASIK



**Flap is lifted and laser is applied**

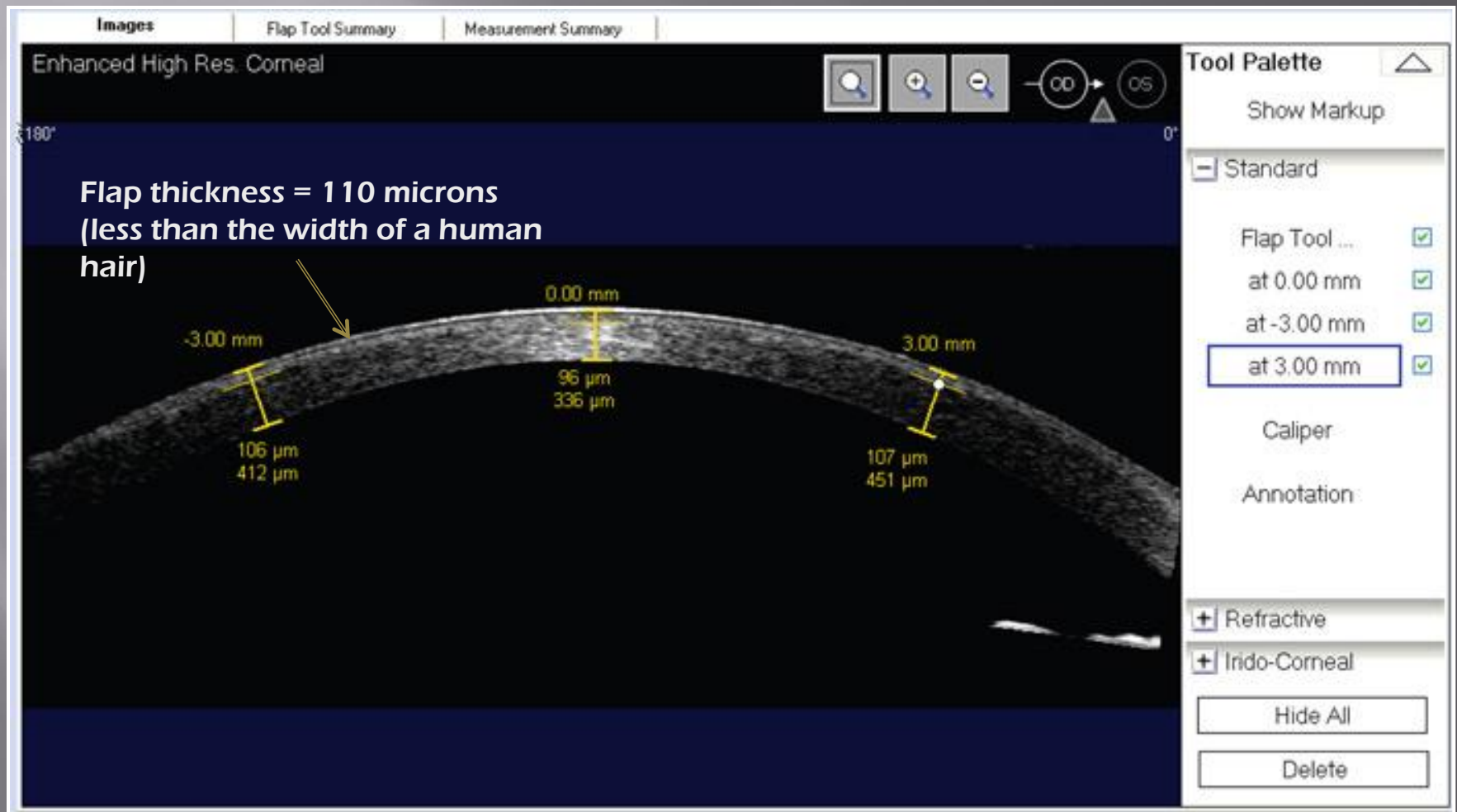
# LASIK



**Flap is repositioned on corneal bed**

# LASIK

## IntraLase “Planar” flap





# LASIK: Expectations

- Blurred vision, moderate discomfort and light sensitivity for up to 24 hours after surgery
- Bruising of the white part of the eye is common—it is painless and will resolve in 2-3 weeks
- Glare, halos and dry eyes very common during first three months; although it is uncommon, any of these symptoms may persist for longer than 3 months
- Although it may take up to a week to attain stable vision, most improvement occurs in the first 24 hours after surgery

# LASIK: Complications

- Over or under-correction; regression
- Infection ( $\ll 1\%$ )
- Complications with creation of flap (intraoperative)
- Flap dislocation (post-operative)
- Striae (folds) in the flap
- Debris under the flap

# LASIK: Complications

- Epithelial ingrowth (under flap)
- Glare and halos
- Dry eyes
- Decreased contrast sensitivity (difficulty with low-light tasks)
- Diffuse Lamellar Keratitis (DLK)

# PRK vs. LASIK

## Comparison

### PRK

- More discomfort
- Longer recovery time
- No flap complications

### LASIK

- Less discomfort
- Shorter recovery time
- No corneal haze risk

# PRK vs. LASIK

- Your choice of procedure should depend upon many things, including :
  - Military job (infantry vs pilot vs HALO, etc)
  - Hobbies/Lifestyle (boxer vs Playstation3 fan)
  - Personal risk tolerance

# Flight Status Personnel

- All service members on flight status, or who are considering applying for flight status, must contact their flight surgeon or prospective flight training program to determine eligibility for refractive surgery. Currently TAMC-RSC is able to treat US Navy Class III personnel. Class I/II Naval aviators should contact the Naval Medical Center San Diego Refractive Surgery Center



# USAF Personnel

- ICL surgery is NOT AUTHORIZED
- All USAF personnel must have an eye exam completed by a USAF ophthalmologist or optometrist, along with a signed USAF-RS Registry *Permission to Proceed* letter prior to scheduling an evaluation at our Center

# Special Ops/Divers/HALO/SF

- You should contact your command's medical officer to determine your eligibility prior to requesting refractive surgery. Although we strive to maintain the most up-to-date information on current requirements, we treat personnel from all services and policies are constantly changing. At this time LASIK is disqualifying for US Army HALO/Diving personnel. LASIK is also disqualifying for US Army Special Forces personnel, but applicants can request a waiver if they have already had LASIK.

# PRK vs. LASIK

Which procedure will give me better vision?

- At six months after surgery you will have the same chance of achieving 20/20 or better uncorrected vision, whether you choose PRK or LASIK
- Using data from the past three years, the percentage of patients with 20/20 uncorrected post-operative vision after corneal refractive surgery at our Center is >95%. No patient has lost greater than 2 lines of best-corrected visual acuity.

Reminders...

# CONTACT LENSES

- Soft lenses: out for at least 2 weeks prior to evaluation
- Hard/Toric lenses : out for at least 4 weeks prior to your evaluation

*\*\*If left in they can change your treatment results!!*

# DON'T BE LATE

- EXPECT TRAFFIC and LIMITED PARKING!!
- Be at the Refractive Surgery front desk 15 minutes prior to all scheduled appointment.  
If you are late, your appointment slot will be given to a standby candidate
- “Standby” slots – a limited number of slots available each day if you live/work near TAMC – Email our Center at [TAMC.DSRefractSurg@amedd.army.mil](mailto:TAMC.DSRefractSurg@amedd.army.mil) the day prior to being available for evaluation to register your name in case there is an unexpected opening



# FOLLOW-UP EXAMS

- COs advised not to sign authorization if they cannot verify that you will be able to follow-up as planned
- Do not schedule surgery if you won't follow-up
- Remember, your surgical treatment is based on past follow-up data from other patients

**\*\*IF YOU FAIL TO FOLLOW-UP AS REQUIRED  
YOUR COMMANDING OFFICER WILL BE  
CONTACTED DIRECTLY BY THE CHIEF OF  
TRIPLER REFRACTIVE SURGERY**

# FINAL COMMENTS

- Important Military Considerations:
  - complications may result in need for medical board with possibility of separation from service with NO benefits
- Surgery usually performed on both eyes on same day, but you have the option to have surgery on separate days
- You may not meet your surgeon until your surgery--if your schedule allows it, we can arrange a consultation prior to your day of surgery if requested
- Please read the entire consent form

# FINAL COMMENTS

- Laser Eye Clinic: located on 2C, Oceanside
  - your evaluation may take a **few hours**
  - bring reading material
  - not the place to bring friends, family due to space
  - no children under age 16 (Center Policy)

ASK QUESTIONS !!! If you ever feel your questions are not answered fully, or to your satisfaction, ask to speak to the NCOIC or OIC

– Clinic Phone # 433-3089

# INTERNET RESOURCES

- Internet:
  - <http://www.eyesurgeryeducation.com>
  - [http://www.aao.org/isrs/patients/ref\\_procedures.cfm](http://www.aao.org/isrs/patients/ref_procedures.cfm)
  - Google “Tripler Refractive Surgery”

\*\*As always, be aware that there is a lot of incorrect information on the internet. If you have any questions, please ask us prior to surgery